

METHOD OF FORMING ADJACENT HOLES ON A SEMICONDUCTOR SUBSTRATE

Abstract

A method of forming adjacent holes on a semiconductor substrate. The adjacent holes are separated by a fine line structure. The method includes the steps of providing a semiconductor substrate with an insulating layer on the substrate, forming a step-shaped structure, with a first horizontal surface, a second horizontal surface, and a vertical surface, on the surface of the insulating layer, depositing a sacrificial layer with an average thickness, forming a patterned photoresist layer on portions of the first and second horizontal surface, performing an etch-back process to remove the sacrificial layer not covered by the photoresist layer and forming a spacer on the vertical surface, removing the patterned photoresist layer, and using the spacer and the remaining sacrificial layer as a hard mask to remove the insulating layer, thereby forming two adjacent holes.